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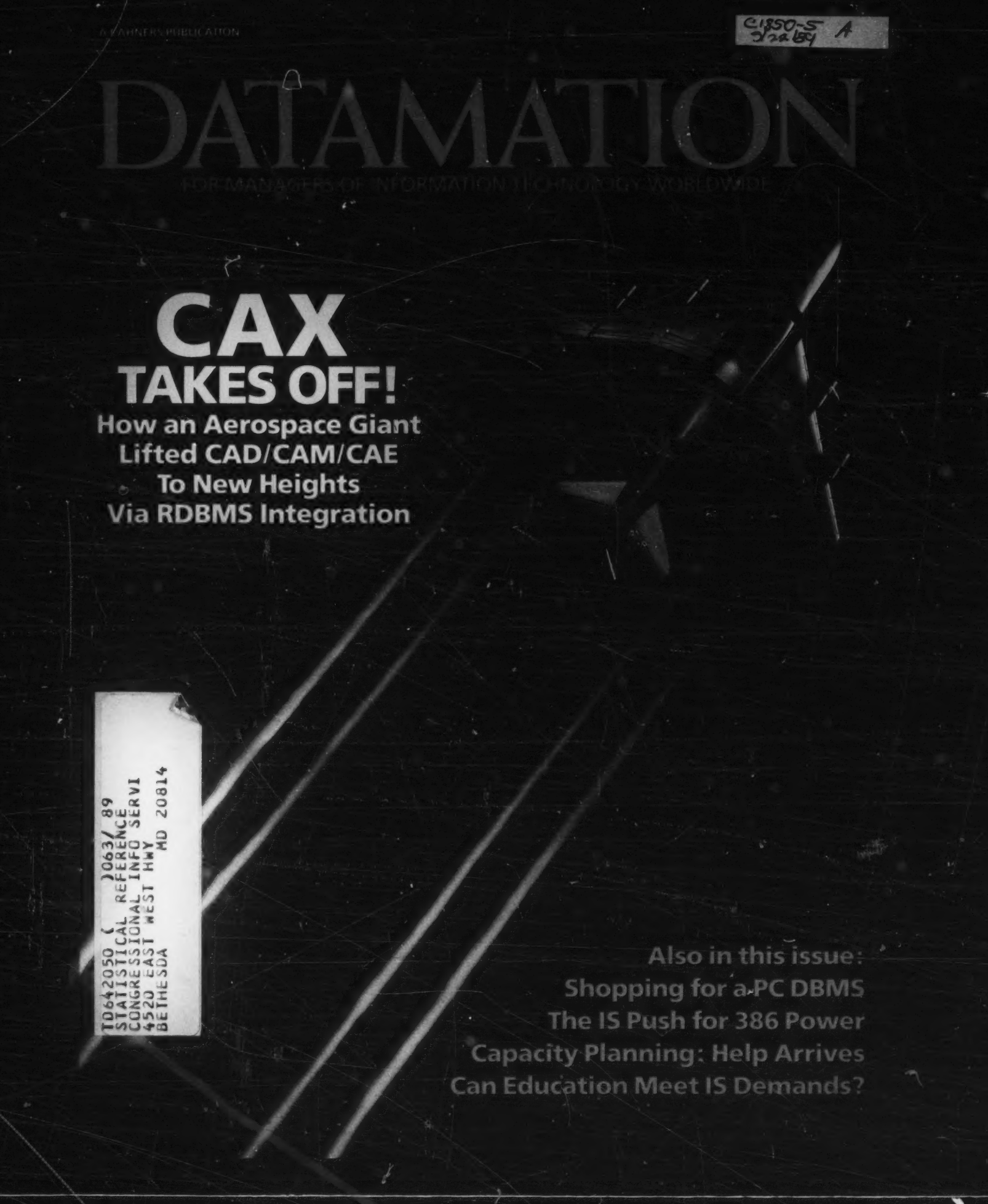

CAX TAKES OFF!

How an Aerospace Giant Lifted CAD/CAM/CAE To New Heights Via RDBMS Integration

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Also in this issue:

Shopping for a PC DBMS

The IS Push for 386 Power

Capacity Planning: Help Arrives

Can Education Meet IS Demands?

MAR 15, 1989 VOLUME 35 NUMBER 6

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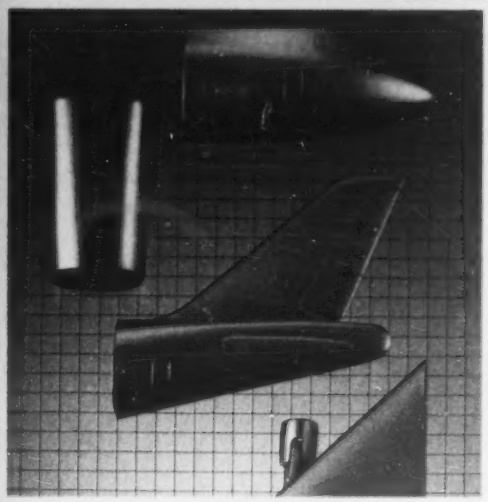

A CAX Success Story 16

BY ERNST GRILL, JOHANN FLITTNER, and WALTER RAUSCH In a report exclusive to DATAMATION, and published for the first time in English, a team from German aircraft giant Messerschmitt details how it integrated standalone CAD, CAM, and CAE systems via commercial RDBMSs. The integration reduces production costs and design time, improves the quality of manufacturing information, avoids multiple data inputs, and accelerates and controls the information flow from the design stage to final assembly.

Cover Photography by Walter Wick

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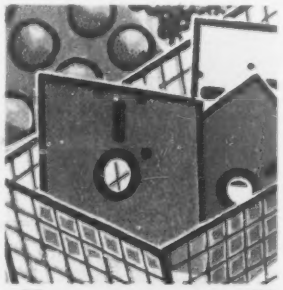

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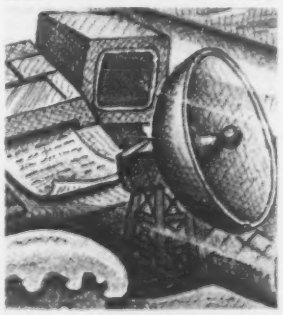

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BY MARVIN BRYAN Because they have grown in three major areas—power, ease of use, and connectivity—PC DBMSs are being used in applications formerly reserved for mini or mainframe-based software. It's estimated that sales of standalone PC DBMS products will have an 18% compound annual growth rate until at least 1992, and database products networked to DBMS servers will enjoy a 240% compound annual growth rate.

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EDITED BY WILLIE SCHATZ A report on products, services, and methodologies for IS managers in government, whether federal, state, or local. Future editions will serve managers in the financial services and manufacturing sectors. (Not included in all issues.)

The Rewards of Honest IS Effort

In our effort to digest all of the management-made-easy nostrums and isn't-it-wonderful technologies handed us these days, sometimes we forget a simple truth about corporate and human endeavors: Perseverance, combined with intellect, yields successful results.

If you don't believe it, just ask West German aircraft maker Messerschmitt-Bölkow-Blohm or DATAMATION editor Marsha Fisher.

The company is the subject and the source of this issue's cover report, "A CAX Success Story," p. 16, which details how a Messerschmitt IS manager and two colleagues have achieved a modern age triumph in systems integration. Fisher, who first alerted us to the importance of the development, spent weeks managing the story through a rigorous editing process, which entailed countless hours of phone work, faxes, and an occasional run to a German-English dictionary.

Photograph by Steve Borns

MARSHA FISHER, DATAMATION editor

What caught Fisher's trained eye in a manuscript submitted by Ernst Grill, Johann Flittner, and Walter Rausch was the team's practical yet derring-do approach taken toward solving an IS problem that's on every manufacturer's technology wish list—integrating all the functional disciplines required in producing a product. The team used commercially available database management software to link its standalone Catia CAD system to its DB2 database—in the first step toward forging an integrated CAD/CAE/CAM database solution.

"It was refreshing to see innovation coming from a user site instead of the normal source, vendors," says Fisher, who edits articles for our Systems and Management sections. "The fact that somebody had actually figured out a way to integrate graphics data and alphanumeric data struck me as novel, one with broader implications for our readers than just a factory application."

Equally impressive was the weight and quality of documentation supplied by the authors, indicating the extent of their testing. "The clincher," Fisher recalls, "was discovering that the application was in production. It wasn't just another off-budget, behind-the-scenes IS experiment."

The aim of Grill and colleagues, of course, isn't merely to show that such integration is achievable. What they're after is to make Messerschmitt a stronger competitor in the world aircraft market. They measure their success not in throughput or access times, but by meeting tangible business objectives like reduced production costs and design cycles.

U.S., Japanese, and European manufacturers would be wise to persevere in their struggle to shape IS to serve their business needs with as much vigor as the Messerschmitt team.

Pushing the PC Envelope

Engineers and plant managers, however, have hardly cornered the market on making productivity gains through innovative use of technology. As Dallas Bureau Manager Bob Francis discovers in the "The IS Push for 386 Power," p. 39, and contributor Marvin Bryan observes in "Shopping for a PC DBMS," p. 25, PC managers and power users are pressing the IS execs who support them to invest in robust desktop solutions. The reward for buying into 386-based systems and SQL-supporting PC database software, they promise, is improved worker performance. We hope they persevere.

Tim Mead

—Tim Mead, Editor-in-Chief

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Can Education Meet IS Career Demands?

Many in education and in the IS industry are concerned about the quality of education in U.S. schools and are pushing reform, but meanwhile alternatives are proving effective.

BY LEILA DAVIS

George Bush proclaimed East Los Angeles high school calculus teacher Jaime Escalante as one of his heroes during last fall's campaign debates. Now that Bush has been inaugurated, however, members of the technology and education communities are waiting to see if the new president will "Stand and Deliver" on promises to support educational reform.

NSBA'S MECKLENBURGER wants to apply technology to all phases of education.

Both information industry executives concerned about the quality of future job applicants and education specialists watching a snowballing reform movement say that Bush could provide the kind of leadership role needed to assure improved individual and economic growth into the next century.

Armed with fresh evidence that technology can improve the learning process, the two groups are watching closely for signs that the new administration will make good its promises to pick up the torch.

"Our ability to compete as a nation is in serious trouble. It is very clear that America is nowhere near as literate as the countries with which it is competing," says John Clendenin, chairman of Bell South.

"Is there time to make changes before we as a nation are dragged down? Yes, if the leadership in Washington focuses attention on the problem. Bush can underscore the urgency for reform—and I think he will," Clendenin predicts.

Clendenin's Atlanta neighbor, Management Sciences America (MSA) chairman John Imlay, concurs. "The biggest limiting factor in our industry's growth today is the ability to find good people," asserts Imlay. Given the more progressive educational programs of other countries, "even India could surpass us unless we get these kids heading our way." Imlay is a member of DATAMATION's Advisory Board.

THE BUSH YEARS

This is the second in a series of articles on IS under the new administration.

Although Bush emphasized education during his campaign, he apparently has had little time to study the issues of declining math and science literacy and lack of computer skills. At press time a spokesman for the Bush transition team could only say that "George Bush is definitely interested in bettering education, but we haven't gotten policy-making down to the specifics yet."

But administration watchers say that there are positive indications that appointees to the new Cabinet are keenly aware of the problem. The President's Chief of Staff, former New Hampshire governor John Sununu, gave active support to the increased use of technology to improve schools in his home state, and has addressed various information industry conferences on the subject.

Sununu declined to comment, but those in the education community say his record in New Hampshire speaks well for him. "Governor Sununu has been very good in his state. He's a zealot for video and telecommunications technologies and for giving computers to teachers," says James Mecklenburger, director of the National School Board Association's Institute for the Transfer of Technology to Education.

"It would be a leadership act among wise leaders to urge technology use in the schools," Mecklenburger adds.

Secretary of Education Lauro F. Cavazos, who came to the department last September from Texas Tech University,

Photograph by Katherine Lambert

demonstrated his awareness of the problem in a speech last December. Quoting the "Nation's Report Card" to a meeting of the Council of Scientific Society Presidents, Cavazos noted that only half of high school juniors "appear to know enough about science 'to perform jobs that require technical skills or to benefit substantially from specialized on-the-job training.'"

Five Key Problems Identified

Cavazos attributes the problems in education to five factors: lack of time devoted to science; poorly organized math curricula; poor quality of instruction; a dearth of good textbooks; and insufficient teacher training.

While these problems have been identified by the Secretary and others, the extent to which they affect IS organizations of U.S. companies is harder to measure. Members of the IS community are less concerned over the drop in enrollment of computer science majors in colleges than with problems in basic skills. They are already looking to CASE and other software productivity tools to pick up the slack they see coming in a less technical work force.

"What we are looking for are good fundamental skills—reading, writing, analytical skills," says Chester Delaney, vice president and manager of systems human resources for Chase Manhattan Bank in New York. "We don't expect schools to turn out people to handle computers in the way we require. We can teach them that.

"Our business is basically people. Communications and management skills are what make a computer department work well within a company," he adds.

"You can teach technical skills, but it is tougher for companies to teach communication skills," notes Michael Ettinger, a corporate personnel representative for the Mervyn's department store chain, based in Hayward, Calif. Ettinger recruits exclusively for the MIS department that supports Mervyn's chain of more than 200 stores in 15 states.

"We expect that CASE software and other innovations will help less technical people generate their own programs," says Ettinger. "We assume we will have fewer programmers sitting at terminals for hours a day."

Nick Simonds, executive director of MIS at Chrysler Corp., also sees more emphasis on productivity tools. "We will have to use the technology itself to help us do more with less. It won't solve the problem, but it will help. The traditional market in which you could say, 'We need another 100 people,' won't exist. Even if you could afford to hire another 100 people, you wouldn't find 100 qualified," says Simonds.

BANKER DELANEY is looking for fundamental skills—reading, writing, analytical skills.

Photograph by Steven Borns

"As the baby boomers age and begin to retire, we will have to translate more knowledge onto expert systems," he explains. "We have begun to take some of our standard processes and embed them in computer code. That will allow us to work with a more unskilled work force. We will still need people to adapt those processes to new circumstances, so the company will have to do a big part of their training."

IS directors report concern over poor teacher training, a national lack of emphasis on math and science, and a disinterest on the part of educators to prepare students for the business world. "I think the drop in computer science enrollment is because the computer science curriculum hasn't been as supportive of the business side as it should be," says Delaney.

"I never find any computer science majors who have studied COBOL. Instead they learn computer architectures, compiler design. The schools can't equip a student to walk into our jobs and know our computers and our software, but there are things that they need to know and [they] don't," he says.

Maintenance Disenchantment

Those dwindling computer science majors entering the work force are more likely to go after a job at a vendor firm than to seek work within the IS community, many executives note. The first assignment for an entry-level programmer or programmer/analyst is generally to maintain existing software, which is not exciting enough for many new graduates. They would prefer to go into systems development for a vendor.

"Computer science majors are at the exotic end of the spectrum. They want to do more sophisticated things. Those people are not interested in an IS department's entry-level job," says Delaney.

Carl Reynolds, staff vice president at Hughes Aircraft, echoed Delaney's observations. "People want to start higher up. They don't want to do basic maintenance programming, they want to do new things. Very few of my programmers are working on things that would interest a computer scientist. Our work has more to do with managing information systems," says Reynolds.

As a result, IS directors say that they expect to hire fewer and fewer entry-level applicants with technical degrees. More candidates will have to come from the schools of business and liberal arts, where recruiters will have a larger pool from which to choose.

"A lot of kids will be coming out of college with nontechnical degrees, and won't have good avenues to get into business. The science disciplines will be screaming for people, and will have to recruit them," predicts Simonds at Chrysler.

"We are going after the business degree with a computer science minor, if we can get it," says Mervyn's Ettinger. "Business skills are more important than technical skills, which we can teach ourselves. We only require that candidates have one COBOL course. Then we put them through a six-week training course, and they receive additional training as their job requires it," explains Ettinger.

While many in the IS community express concern about problems in basic education, the need for reform, and better exposure to computers in schools, virtually all of the executives emphasized another point regarding fresh recruits: "No matter how qualified they are," says Delaney, "there will be fewer of them."

With the end of the baby boom genera-

tion now in its late twenties, the students currently in high school and college are members of the "birth dearth" generation—the population dip that ensued after the baby boom. IS directors see the shrinking number of entry-level candidates in general as compounding the problems of education.

According to Chrysler's Simonds, however, when members of the current smaller baby boom begin graduating from college, the ratio of those going into the sciences will still never match the numbers attracted to technical careers over the past 20 years. "It all went up so fast—the industry bloomed, the baby boomers hit the work force, women emerged as a major part of the work force. Things will not happen like that again."

New Approach Proposed

Such demographic trends may be hard to predict, but the nation's educators, meanwhile, are pushing reform. Martha Stone Wiske, codirector of the Educational Technology Center at the Harvard Graduate School of Education, describes the reform that many educators are rooting for. "We must move from the transmission approach, in which the knowledge is transmitted from teacher to student, to more of an inquiry approach, in which the teacher and student work together toward the construction of knowledge.

"Learning theorists have proven that memorization doesn't work. Students must be learning how to think for themselves, to appreciate how math and science knowledge is made," she adds. "They need to know how to do critical thinking, to know the process by which mathematicians and scientists reach their conclusions. Computers can play a big role in this guided inquiry approach."

□ COMMUNICATIONS AND MANAGEMENT SKILLS MAKE AN IS DEPARTMENT WORK.

Mecklenburger at NSBA emphasizes the need to apply technology to all phases of education. "In a general sense, few if any educational objectives we have can be accomplished without technology. School administration can't improve without technology. The curriculum cannot be made better without technology. The performance of teachers and the streamlining of their workload cannot take place without technology. Student learning cannot be made more efficient without technology," says Mecklenburger.

In his speech, Cavazos said he intends to discuss these issues with governors and educators in coming months, and he also called on business groups to get involved. Cavazos cited the success of programs like the Industry Initiatives for Science and Math Education at Lawrence Hall at the University of California at Berkeley, where teachers are hired by businesses to conduct research during the summer. The stint sends them back to the classroom with "real world" experience.

Industry executives are making moves on their own, too. Within the last year, many of the information industry's leaders have become education activists. Industry firms and associations are jumping in with a patchwork of programs and services designed to help schools and students at the local level.

"Two years ago, business people would look at students and say, 'Isn't that a shame,' but not do anything. Today, they realize that those kids are the ones that will be in our work force tomorrow. There is a widespread recognition within the business community that we must help engender public concern for better education," says David J. Barram, vice president of corporate affairs at Apple Computer in Cupertino, Calif. While Apple remains the leader in selling computers to the education community, Barram is active within the company in organizing volunteer and support programs for local school districts.

Unprecedented Involvement

Technology firms are becoming involved in the public education system in unprecedented ways—lending employees as teachers, giving speeches and leading career discussions in high schools, making vacant seats in vendor training courses available to teachers, and providing local political support to school administrators seeking reform.

Leaders in both communities see this new partnership as a positive step, but say they still need federal leadership in setting priorities, funding research and development, and assuring equity of access to education reforms.

Equity is an issue that surfaces frequently in discussions on education technology, since current studies show that schools in more affluent, predominantly white neighborhoods generally have more technology and are further along in educational reform than poor rural and inner-city schools. "There are some islands of excellence," says NSBA's Mecklenburger, "but we need a nation of

How Many Hands on the Keyboard?

In almost two-thirds of U.S. elementary schools, each computer must serve more than 30 students.

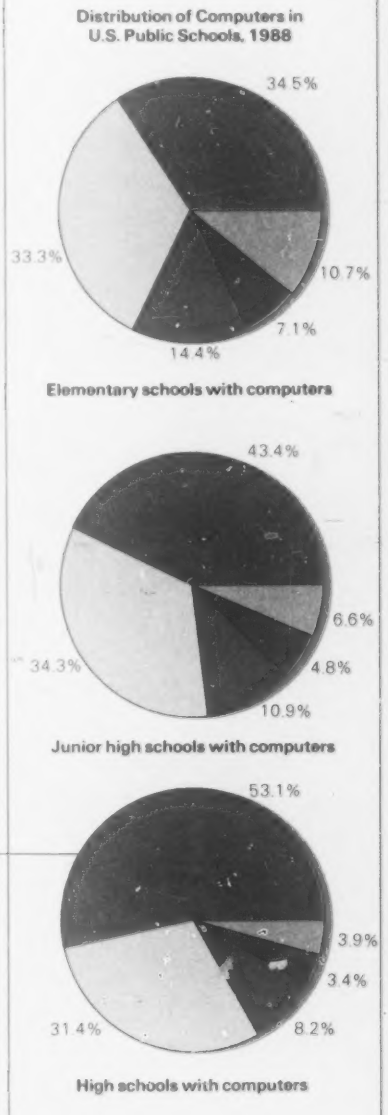


Chart by Catherine Francis

excellence."

Clendenin of Bell South calls for Washington to "set a leadership stance to focus attention on the problem. Ultimately, it has to be fixed at the local level, because the bulk of the funding is local and state. But Washington can do a lot to set the tone and I hope they do. I hope the urgency of the message comes out loud and clear."

"The federal government can help, and the major thing it can provide is the right climate," agrees Bob Berland, vice president, vendor strategy and support, at IBM's Applications Systems division. Berland is very active in ADAPSO's (the Computer Software and Services Industry Association) Success 2000 project launched this year, which encourages executives to get involved in schools by giving talks, making video and slide presentations to high school students, and offering help to school administrators.

"I got involved with the ADAPSO program because I was concerned by the tremendous drop-off in computer science majors and by the lack of math and science proficiency in general," says Berland. "I read in the Workforce 2000 study [see "Battling Birth Dearth"] that the U.S. is 12th or last [in a survey of high school students in the 13 most developed countries] in every single category.

"As an American, an IBMer, and a parent, it scared the hell out of me. I recommended at an ADAPSO meeting that we do something to let kids in school know how exciting our industry is," Berland explains.

ADAPSO's program, launched in 1988, so far has concentrated on motivating students to study for a career in computer software and services rather than addressing the curriculum or computer literacy issues directly. The trade organization has had a tremendous response from its membership to create a speakers bureau for schools. It has also produced a video featuring Microsoft's Bill Gates, IBM's John Akers, Jim Manzi of Lotus, Apple chief John Sculley, and Ken Olsen of DEC in discussions about industry career options.

ADAPSO's Grass-Roots Approach

Top executives from the biggest to the smallest technology services companies are responding to ADAPSO's call. "At IBM, we focus not just on the kids but on the teachers, too," says Berland. "For example, IBM has all sorts of classes going on all the time. We offer teachers the chance to attend some of these classes."

The ADAPSO Success 2000 volunteers and others in the industry stress the need for a grass-roots approach, since the public education system is administered at the local level. The federal government can and should launch an awareness campaign, and additional federal funding couldn't hurt, say industry executives, but the bottom line is the local school district.

Apple's Barram emphasizes the need for political support. "Business people are making a lot of noise at the federal level, but the real contribution is at the local level. Businesses should understand what the school is trying to do, offer constructive criticism, and help in the political process of getting it done.

> □ **"THERE ARE SOME ISLANDS OF EXCELLENCE, BUT WE NEED A NATION OF EXCELLENCE."**

"All the other programs are terrific, but if we could work together to build a political consensus, we'd dramatically change the political landscape of America," admonishes Barram. Apple advises schools to call the most important businesses in the area and ask them for help to support their political agenda "because it is where their workers will come from, and where their kids go to school."

Some in the education community, accustomed to finding resources where none are apparent, say funding is not the primary issue. Says the NSBA's Mecklenburger, "Vision, leadership, and financing, in that order, are what's needed." □

Leila Davis is a freelance writer based in Alexandria, Va.

Battling Birth Dearth

Through the year 2000, the most rapidly growing of all U.S. industries in terms of employment will be computer and data processing services, according to a 1988 report from the Bureau of Labor Statistics entitled "Workforce 2000."

Employment in the computer and IS services industry is projected to grow at a rate of 5.2% per year, which will just about double its 1986 level to reach 1.2 million by the year 2000. "The need for systems design and analysis, programming, and software development is certain to be very strong," predicts the BLS report.

However, the economic and employment projections, prepared biennially by the Bureau, also show a slowdown in the growth of the nation's labor force. It is expected to expand to 21 million, an 18% growth rate, by the year 2000. The growth rate from 1972 to 1986 was 35%.

For fast-growing information industry employers, the difficulties of a slowing labor force will be compounded by the prediction that most of the new human resource pool will come from population segments that have statistically lower levels of preparation for careers in high technology: blacks, Hispanics, and women.

Minorities will account for 57% of labor force growth; if non-Hispanic white women are included, that figure exceeds 90%.

The report points out a large disparity in the current occupations of these minorities and the projected growth areas for occupational employment.

The potential for a poorly qualified labor force won't be restricted to the information services sector, according to Workforce 2000. Although employment in the computer manufacturing segment is expected to level off in coming years, the BLS report points out that unlike other manufacturing industries, computer manufacturing requires a relatively low percentage of production workers. More than 25% of employment in this sector consists of engineers, technicians, and systems analysts, while production workers represent only 35%. In manufacturing as a whole, production workers represent 68% of employment.

"Policymaking will need to focus on ensuring that all youth, particularly minorities, are given sufficient education to ease their entry into the job market and equip them with the skills needed to advance to better jobs," says the report. "While education alone is not the solution to all labor market problems, it is clearly important in the solution."

Industry and occupational data from the Workforce 2000 report are available on tape or diskette from the Bureau of Labor Statistics, Div. of Financial Planning and Management, Rm. 1077, 441 G St. N.W., Washington, DC 20212. The report can be ordered from the Government Printing Office by calling (202) 783-3238.

GOVERNMENT

SECTORS

SCAN

The Extremely Long Arm of the Law

NEW YORK TAX SYSTEM GOES EVERYWHERE
$50 MILLION COLLECTED IN FIRST TRY.

When each of New York State's Tax Department's computers was an island unto itself, it was easy to tell a lie and get away with it.

Now, under a plan administered by James W. Wetzler, the Commissioner of The New York State Department of Tax and Finance, computers talk to each other, and they have no secrets. Neither do New York State tax evaders.

New York's chief tax man James W. Wetzler

"We told the programmers to pretend they were tax cheats and to try to catch themselves," says Paul Rickard, a spokesman for the tax department. "So they did. And they rarely missed."

An investigation into wealthy taxpayers claiming not to be New York residents uncovered $50 million in unpaid taxes from the first 12 people audited. Not a bad ROI for a six-year, $65 million computer modernization of N.Y.'s department of Taxation and Finance.

Under the old regime, the computers had a serious failure to communicate. A Sperry 1192 mainframe supported three incompatible systems that didn't have a prayer of talking to each other. Then what should appear but an IBM 3090-400E supercomputer, which now runs in parallel with the 1192. The 3090 supports 2,400 terminals; the 1192 supports 1,000.

"We went top drawer on this one," Rickard says.

The 12 people who thought they were home free could have told him that.

LOOKING FOR A JOB?

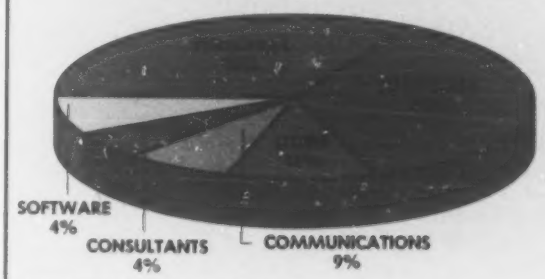
Local governments are hiring more IS talent than organizations within their state and federal counterparts.

	Average Number of IS Employees		
Organization	1988	1989	Change
Local municipalities	21.0	23.2	10%
State agencies	27.4	28.6	4%
Federal government	74.7	75.3	1%

Source: DATAMATION 1988-1989 Budget Survey

STATE EDP SPENDING IN 1988

People and hardware consume most of the money.



Source: National Association for State Information Systems

Network via Bulletin Board

The PC bulletin board offered to city government officials as part of a four-month-old network called Local Exchange is not for hackers only. It offers information and services to local government employees at all levels of computer literacy.

Local Exchange was created by Washington, D.C.-based Public Technology Inc., the National League of Cities, the International City Management Association, and the Government Finance Officers Association to provide electronic mail, bulletin boards, databases, computer conferencing, and other electronic services over the Telenet network.

The network organizes its more technically oriented users into groups that can share solutions to PC problems in government applications. It also offers a database on innovations in local government and an abstracting service for over 400 periodicals that address local government concerns.

"The service is pulling local governments together and bringing specialized information to them," says Ted Shogry, Local Exchange's project leader and Public Technology's center director for network services.

"An audience like this is hard to address because it is international, has a geographically dispersed membership, and a range of computer skills within that membership," Shogry adds.

Local Exchange has several hundred subscribers right now, according to Shogry, who hopes to see that number grow to several thousand across the United States and Canada. He would only describe the subscription and connection charges as "modest."

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Editor: Willie Schatz

Managing the Debt

With larger investors pulling out of the bond market in search of higher margins elsewhere, city financial officers have lost the management and analysis services that frequently accompanied the underwriting of a bond issue. Meanwhile, juggling new types of debt—certificates of participation, installment debt—demanded more sophisticated controls than paper, pencil, and an off-the-shelf spreadsheet package.

"The problem was, there was no PC software out there to help us do that," recalls Andy Atkinson, the finance director for New Hanover County in North Carolina. "We couldn't find anything to help us keep track of our payments. We would have to generate a payment schedule on paper, and check off each time a payment was made. At the year-end, we'd put it all into Lotus [1-2-3] and create a financial statement. If we had to go back into the bond market once or twice during that year, we'd have to regenerate the payment schedules to analyze each issue."

Larry Blanton

Atkinson now uses a package called debtBASE from Carolina Software that allows him to produce an annual statement—which used to take one week, minimum—in a matter of keystrokes. It also has saved him auditor costs, since the payment history of each issue is maintained on his PC and reconciled with the previous year's debt.

"There were packages on the market that did what I wanted, but they were very expensive—$5,000 or more—and really would have been overkill. Most of these started as mini or mainframe software that was downsized for PCs," explains Atkinson.

So Atkinson looked around at the alternatives and eventually picked Carolina Software of Wilmington, N.C. He chose Carolina because the firm's founder, Larry Blanton, had been deputy finance director for the City of Wilmington, and his firm had already begun to profit from the dearth of specialized software for city governments.

"DebtBASE provides primary tracking of all debt issues and summary information on what was borrowed, from whom, what the rate was—it can also handle flexible rates. It shows the payment schedule and provides a spreadsheet to post the payments as they are made and the debt of principal or interest payments remaining," says Carolina's senior systems analyst Ginny Caughey.

The Government Finance Officers Association in Washington, D.C. recognized the burgeoning need and market potential for capital finance software, and has been offering to its members a number of programs developed by various vendors.

The International City Management Association got in on the act two years ago, when its general membership hotline began to clog with inquiries about software packages for various city management functions. It decided to publish a software reference guide for city government officials.

"The first one was a very small listing," says the ICMA Software Reference Guide's assistant editor, Milou Carolan. "But the 1988 edition was considerably larger, and this year we have 625 programs from over 300 vendors."

The 1989 edition will cost $40, and will be available soon from ICMA, 1120 G St., Washington, DC 20005.

LAN Shopping Made Easy

The urgent demand for local area networks by government agencies has prompted the General Services Administration's Office of Technical Assistance to create a multiple awards program that will ease the procurement logjam for LAN-shopping agencies that are clients of OTA.

Howard Grandier

"Local area networks are still the hottest growing area among federal agencies, with no let-up in sight for the next two to three years," says Howard Grandier, director of software development and information technology at OTA. "The procurement process is typically long, involved, dangerous," he adds, explaining that an agency acting on its own could spend up to a year to evaluate and buy a LAN.

"So we invented a unique program—we award a number of indefinite awards to various vendors, to be specified later for particular agency applications. Basically, we prequalify the vendor for the agencies."

The first five-year contract awards are expected to be made soon. There is no predetermined number of qualifiers. The vendors are scored on various aspects of their proposals, and OTA establishes a competitive range based on the scores tallied. The vendors within that competitive range are accepted. The program will be opened again for competition once a year, but new applicants will be judged against the existing competitive range.

"We've had a program like this for general OA systems, but LANs have become so big that they warranted a separate program," Grandier notes. When an agency comes to OTA for its consulting and support services, OTA will be able to hold a competition among the prequalified vendors for the specific LAN project and make an award within 10 weeks. "The agencies get a competitive procurement, they get companies with a good track record, and they cut their procurement cycle by one-third."

The typical LAN installation right now is within a department or a single building. Although some far-flung agencies like the Social Security Administration have begun tying together all their offices through wide area networks, most agencies are still trying to round up standalone PCs used by 100 to 150 people. "Once an agency gets several LANs installed, someone at the top will say, 'Let's tie all these LANs together.' Then LAN growth will slow down and we'll be on to the next step: WANs," says Grandier.

YOUR TAX DOLLARS AT (NET)WORK

U.S. agencies spend more on LANs as a portion of their IS budgets than other public institutions or private industry.

User	IS Budget on LANs
Federal government	4.6%
States	.2%
Municipalities	.6%
Manufacturers	1.6%
Service Companies	1.4%

Source: DATAMATION 1988/1989 Budget Survey

Will You Test Negative For Posix?

The National Institute of Standards and Technology (NIST) is looking for beta test sites to test conformance to the proposed revision to its new Posix Federal Information Processing Standard (FIPS 151).

If implemented, the revision will bring the Posix FIPS in line with the IEEE's final version of Posix released late in 1988. The original Posix FIPS was based on an earlier draft of the IEEE standard (see "Federal Info Managers Embrace Stopgap Posix Standard," Oct. 15, 1988 p. 19).

The test suite software being offered for beta testing contains a list of test assertions to which a product must conform to meet the final Posix standard. The software takes the product or system through each syntax on a one-to-one basis and tells what each syntax must do to conform, according to Jim Hall, a computer specialist at NIST.

Federal agencies in the midst of a large Posix procurement and Posix product vendors are the candidates most likely to apply. The cost is $100 to cover handling of the tape. A test site must agree to respond promptly to NIST with any problems with the conformance software. In its final version, the test suite will cost $2,500.

The official closing date for applications is next February, depending on its publication in the Federal Register. NIST probably would not turn away anyone applying late, however. "We aren't restricting anyone," Hall says. "We're hoping for 30 applicants, but we'd like to have more."

Munis Ease Buying Bonds

The Municipal Securities Rate Board soon will begin working on a central repository for the annual statements of all 8,500 to 10,000 municipal bond issues released in the U.S. each year. The repository would store the statements on optical disk and offer them on-line to investors.

The MSRB is waiting for word from the Securities and Exchange Commission to proceed with the project. The SEC had proposed that municipal bond underwriters take certain steps to review the annual statements and make them available throughout the life of the bond issue.

"The board has been looking at various technologies to use in a central repository," says MSRB executive director Christopher Taylor. "We've decided that optical scanning makes the most sense."

Filing annual bond issue statements electronically would mean setting standards, which presents big political problems. Comments to the SEC from local governments show they fear that standards would mean a loss of control.

The board won't move on the repository until the SEC makes central filing of the statements mandatory. "We want to make sure we can get all of them, and get them on a timely basis," says Taylor. ◀